

---

U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

---

Gordon P. Eaton, Director

Reston, VA 20192

---

For information, contact:

John F. Papp, Commodity Specialist

Telephone: (703) 648-4963, Fax: (703) 648-7757

E-mail: [jpapp@usgs.gov](mailto:jpapp@usgs.gov)

Micheal George (Data), (703) 648-7962

MINES-DATA: (703) 648-7799

MINES FaxBack: (703) 648-4999

Internet: <http://minerals.er.usgs.gov/minerals>

## CHROMIUM IN APRIL 1997

Chromite consumption decreased slightly in April 1997 compared with the previous month's revised data, according to the U.S. Geological Survey. Net production of chromium ferroalloys and metal in April 1997 decreased 7% compared with data for March 1997. Chromite stocks increased 7% over the same period. At the April rate of consumption, chromium stocks represented 8 months of domestic supply.

Included in this Mineral Industry Surveys are: U.S. consumption and stocks of chromite; U.S. net production, net shipments, and stocks of chromium materials; U.S. Government inventory for April; U.S. consumption by end use and consumer stocks for chromium ferroalloys and metal for January, February, March, and April; and foreign trade for March 1997.

### Price Update

U.S. low carbon ferrochromium, imported (dollars per pound, contained weight)

0.05% carbon

0.1% carbon

Week ending	Price range	Week ending	Price range
May 3	1.12-1.20	May 3	0.93-1.00
May 10	1.05-1.15	May 10	0.92-0.98
May 17	1.05-1.15	May 17	0.92-0.98
May 24	1.05-1.15	May 24	0.92-0.98

Source: Platt's Metals Week

U.S. high carbon ferrochromium, imported (cents per pound, contained weight)

50%-55% carbon		60%-65% carbon	
Week ending	Price range	Week ending	Price range
April 26	48-50	April 26	47-48
May 3	49-51	May 3	52-54
May 10	50-51	May 10	53-55
May 17	50-51	May 17	53-55

Source: American Metal Market

TABLE 1  
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight unless otherwise noted)

	1996	1997			
	Jan.-Dec.	Feb.	Mar.	Apr.	Jan. - Apr.
Production:					
Chromium ferroalloys and metal: 2/					
Net production:					
Gross weight	36,800	3,000	3,090	2,870	12,000
Chromium content	26,400	2,190	1,600	1,320	7,330
Net shipments	38,800	2,180	5,080	2,180	13,000
Stainless steel production 3/	1,920,000	NA	NA	NA	NA
Components of U.S. supply:					
Stainless steel scrap receipts	579,000	52,400 r/	66,000 r/	65,300	242,000
Imports for consumption					
Chromite ore	250,000	3,030	86,900	NA	128,000 4/
Chromium ferroalloys 5/	420,000	18,900	36,800	NA	87,200 4/
Chromium metals 6/	8,740	921	846	NA	2,330 4/
Stainless steel	NA	NA	NA	NA	NA
Stainless steel scrap	47	NA	NA	NA	NA
Distribution of U.S. supply:					
Consumption:					
Chromite ore	282,000	20,900 r/	23,100 r/	22,800	88,100
Chromium ferroalloys & metals	289,000	27,300	28,900	30,300	120,000
Exports:					
Chromite ore	69,400	5,930	1,480	NA	8,950 4/
Chromium ferroalloys	15,800	975	841	NA	2,450 4/
Chromium metals	1,330	142	180	NA	383 4/
Stainless steel	NA	NA	NA	NA	NA
Stainless steel scrap	303	23	17	NA	63 4/
Stocks at end of period:					
Industry:					
Chromite ore:					
Chemical and metallurgical	165,000	187,000	170,000	182,000	XX
Refractory	7,890	9,210 r/	9,200 r/	8,970	XX
Total	173,000	196,000 r/	179,000	191,000	XX
Chromium ferroalloys and metal:					
Producer	6,450	6,690	4,700	5,390	XX
Consumer	24,400	24,100	21,000	21,600	XX
Government stockpile:					
Chromite ore	1,190,000	1,170,000	1,160,000	1,160,000	XX
Chromium ferroalloys	1,050,000	1,030,000	1,030,000	1,030,000	XX
Chromium metals	7,720	7,720	7,720	7,720	XX

r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low- and high-carbon ferrochromium, chromium concentrates, ferrochromium, chromium metal, and other miscellaneous alloys.

3/ Data on stainless steel production from American Iron and Steel Institute, quarterly production of stainless and heat resisting raw steel.

4/ Includes data for January through March; April not available at time of publication.

5/ Includes high-, medium-, and low- ferrochromium and ferrochromium silicon.

6/ Includes waste and scrap and other.

TABLE 2  
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF  
CHROMIUM FERROALLOYS AND METAL IN JANUARY 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium		Ferro- chromium silicon	Other	Total
	Low- carbon	Medium- and high- carbon			
Steel:					
Carbon	348	310	9	3	670
Stainless and heat resisting	455	22,800	W	W	23,300
Full alloy	374	1,690	93	5	2,160
High-strength low-alloy and electric	84	147	676	--	907
Tool	W	443	W	W	443
Cast irons	W	W	W	W	W
Superalloys	210	512	--	300	1,020
Alloys:					
Welding materials 2/	--	10	--	6	16
Other alloys 3/	23	24	--	41	87
Miscellaneous and unspecified	2,380	(4/)	2,950	24	5,360
Total: 5/ gross weight	3,880	25,900	3,730	378 6/	33,900
Chromium content	2,640	15,800	1,170	347	19,900
Stocks, Jan. 31, 1997	5,750	23,800	1,060	218 7/	30,800

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes structural and hard-facing materials.

3/ Includes magnetic, aluminum, copper, nickel, and other alloys.

4/ Withheld to avoid disclosing company proprietary data.

5/ Includes estimates.

6/ Includes 315 tons of chromium metal.

7/ Includes 154 tons of chromium metal.

TABLE 3  
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF  
CHROMIUM FERROALLOYS AND METAL IN FEBRUARY 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium		Ferro- chromium silicon	Other	Total	Jan. through Feb. total 2/
	Low- carbon	Medium- and high- carbon				
Steel:						
Carbon	319	216	16	--	552	1,220
Stainless and heat resisting	374	17,600	W	W	18,000	41,200
Full alloy	358	2,500	86	W	2,950	5,110
High-strength low-alloy and electric	86	153	590	W	829	1,740
Tool	W	191	W	W	191	634
Cast irons	W	W	W	W	W	W
Superalloys	211	W	--	321	533	1,550
Alloys:						
Welding materials 3/	--	W	--	6	6	22
Other alloys 4/	21	25	--	43	89	176
Miscellaneous and unspecified	208	568	3,400	34	4,210	9,570
Total: 5/ gross weight	1,580	21,200	4,100	404 6/	27,300	XX
Chromium content	1,060	12,600	1,470	386	15,500	XX
Stocks, Feb. 28, 1997	1,460	21,300	1,120	244 7/	24,100	XX
Jan. through Feb.: 2/						
Total	5,450	47,200	7,830	782 8/	XX	61,200
Chromium content	3,710	28,400	2,650	733	XX	35,500

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified." XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Includes structural and hard-facing materials.

4/ Includes magnetic, aluminum, copper, nickel, and other alloys.

5/ Includes estimates.

6/ Includes 352 tons of chromium metal.

7/ Includes 178 tons of chromium metal.

8/ Includes 667 tons of chromium metal.

TABLE 4  
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF  
CHROMIUM FERROALLOYS AND METAL IN MARCH 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium		Ferro- chromium silicon	Other	Total	Jan. through Mar. total 2/
	Low- carbon	Medium- and high- carbon				
Steel:						
Carbon	261	321	15	3	600	1,820
Stainless and heat resisting	497	19,300	W	4	19,800	61,000
Full alloy	432	1,870	86	3	2,390	7,510
High-strength low-alloy and electric	151	191	592	--	934	2,670
Tool	W	281	--	--	281	916
Cast irons	W	163	W	W	163	163
Superalloys	208	381	--	231	820	2,370
Alloys:						
Welding materials 3/	W	10	--	W	10	32
Other alloys 4/	24	24	--	52	99	275
Miscellaneous and unspecified	259	--	3,530	30	3,820	13,400
Total: 5/ gross weight	1,830	22,500	4,220	322 6/	28,900	XX
Chromium content	1,230	13,500	1,520	281	16,500	XX
Stocks, Mar. 31, 1997	1,450	18,200	1,140	243 7/	21,000	XX
Jan. through Mar.: 2/						
Total	7,290	69,700	12,100	1,100 8/	XX	90,200
Chromium content	4,940	41,800	4,170	1,010	XX	52,000

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified." XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Includes structural and hard-facing materials.

4/ Includes magnetic, aluminum, copper, nickel, and other alloys.

5/ Includes estimates.

6/ Includes 239 tons of chromium metal.

7/ Includes 172 tons of chromium metal.

8/ Includes 906 tons of chromium metal.

TABLE 5  
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF  
CHROMIUM FERROALLOYS AND METAL IN APRIL 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium		Ferro- chromium silicon	Other	Total	Jan. through Apr. total 2/
	Low- carbon	Medium- and high- carbon				
Steel:						
Carbon	346	280	15	--	641	2,460
Stainless and heat resisting	558	20,300	W	W	20,800	81,800
Full alloy	352	1,730	92	4	2,170	9,680
High-strength low-alloy and electric	184	166	604	W	954	3,630
Tool	W	347	W	--	347	1,260
Cast irons	W	170	W	W	170	333
Superalloys	177	W	--	308	485	2,860
Alloys:						
Welding materials 3/	--	11	--	6	17	49
Other alloys 4/	19	W	--	50	69	344
Miscellaneous and unspecified	147	475	3,970	37	4,630	18,000
Total: 5/ gross weight	1,780	23,400	4,680	406 6/	30,300	XX
Chromium content	1,200	14,200	1,690	370	17,500	XX
Stocks, Apr. 30, 1997	1,550	18,600	1,080	291 7/	21,600	XX
Jan. through Apr.: 2/						
Total	9,070	93,200	16,700	1,510 8/	XX	120,000
Chromium content	6,140	56,100	5,850	1,390	XX	69,500

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified." XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Includes structural and hard-facing materials.

4/ Includes magnetic, aluminum, copper, nickel, and other alloys.

5/ Includes estimates.

6/ Includes 334 tons of chromium metal.

7/ Includes 216 tons of chromium metal.

8/ Includes 1,240 tons of chromium metal.

TABLE 6  
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

Period	Chromite ore			Chromium ferroalloys			Chromium metal	
	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic
1996:								
April	220,000	717,000	328,000	738,000	283,000	52,900	2,670	5,020
May	220,000	694,000	328,000	738,000	283,000	52,900	2,670	5,020
June	220,000	658,000	327,000	738,000	283,000	52,900	2,670	5,020
July	220,000	655,000	322,000	738,000	283,000	52,900	2,670	5,020
August	220,000	655,000	322,000	738,000	283,000	52,900	2,670	5,020
September	220,000	647,000	322,000	734,000	283,000	52,700	2,670	5,050
October	220,000	645,000	322,000	732,000	283,000	52,700	2,670	5,050
November	220,000	645,000	322,000	725,000	283,000	52,700	2,670	5,050
December	220,000	645,000	322,000	718,000	283,000	52,700	2,670	5,050
1997:								
January	220,000	637,000	322,000	704,000	283,000	52,700	2,670	5,050
February	220,000	633,000	322,000	695,000	283,000	52,700	2,670	5,050
March	220,000	627,000	318,000	695,000	283,000	52,700	2,670	5,050
April	220,000	626,000	318,000	695,000	283,000	52,700	2,670	5,050

1/ Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.

2/ Data are rounded to three significant digits.

Source: Defense National Stockpile Center.

TABLE 7  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
1996:							
March	1,840	\$484	669	399	\$894	124	\$1,450
April	17,100	2,280	734	444	843	165	1,530
May	1,730	1,160	472	288	597	76	863
June	37,900	4,270	490	291	583	143	1,110
July	1,920	568	1,320	797	1,640	214	1,820
August	1,060	564	676	411	694	63	717
September	614	132	955	554	912	137	772
October	1,310	152	1,100	680	956	97	1,010
November	1,390	486	1,450	852	1,350	93	825
December	1,060	214	6,200	3,750	3,140	89	1,090
Jan.-Dec.	69,400	11,100	15,800	9,520	14,000	1,330	12,800
1997:							
January	1,540	364	635	405	718	60	600
February	5,930	977	975	609	1,160	142	1,120
March	1,480	487	841	527	939	180	1,260
Total	8,950	1,830	2,450	1,540	2,820	383	2,980

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium-silicon.

3/ Includes wrought and unwrought and waste and scrap.

Source: Bureau of the Census.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE,  
FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	1996	1997			
	Jan.-Dec.	January	February	March	Jan.-Mar.
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	8,030	5,780	--	40	5,820
Chromic oxide content	2,650	1,910	--	16	1,920
More than 40% but less than 46% chromic oxide:					
Gross weight	25,400	--	--	--	--
Chromic oxide content	11,100	--	--	--	--
46% or more chromic oxide:					
Gross weight	217,000	31,900	3,030	86,900	122,000
Chromic oxide content	102,000	14,800	1,670	40,700	57,200
Total, all grades:					
Gross weight	250,000	37,700	3,030	86,900	128,000
Chromic oxide content	116,000	16,700	1,670	40,800	59,100
Ferrochromium:					
Low-carbon: 2/					
Gross weight	60,700	5,220	3,860	7,380	16,500
Chromium content	38,400	3,410	2,550	4,620	10,600
Medium-carbon: 3/					
Gross weight	36	17	--	--	17
Chromium content	23	11	--	--	11
High-carbon: 4/					
Gross weight	359,000	26,300	15,000	29,400	70,800
Chromium content	207,000	16,200	11,600	14,000	41,800
Total, all grades					
Gross weight	420,000	31,600	18,900	36,800	87,200
Chromium content	246,000	19,700	14,100	18,600	52,400
Chromium metal:					
Other than waste and scrap	8,670	560	918	846	2,320
Waste and scrap	67	(5/)	2	--	3
Total, all grades	8,740	561	921	846	2,330

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Ferrochromium containing not more than 3% carbon.

3/ Ferrochromium containing more than 3% carbon but not more than 4% carbon.

4/ Ferrochromium containing more than 4% carbon.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 9  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN MARCH 1997,  
BY GRADE AND BY COUNTRY 1/

Country	March			January-March		
	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 2/ (thousands)
Not more than 40% chromic oxide:						
Philippines	--	--	--	5,780	1,910	1,050
South Africa	40	16	6	40	16	6
Total	40	16	6	5,820	1,920	1,060
46% or more chromic oxide:						
Canada	--	--	--	13	6	5
Russia	--	--	--	22	261	117
South Africa	86,900	40,700	2,730	122,000	56,900	7,500
Total	86,900	40,700	2,730	122,000	57,200	7,630
Total, all grades:						
Canada	--	--	--	13	6	5
Philippines	--	--	--	5,780	1,910	1,050
Russia	--	--	--	22	261	117
South Africa	86,900	40,800	2,730	122,000	56,900	7,510
Total	86,900	40,800	2,730	128,000	59,100	8,690

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

Source: Bureau of the Census.

TABLE 10  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN MARCH 1997,  
BY GRADE AND BY COUNTRY 1/

Country	March			January-March		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)
High-carbon ferrochromium: 3/						
Canada	--	--	--	20	9	\$2
France	--	--	--	15,000	11,600	5,740
India	385	248	\$209	770	484	399
Kazakstan	130	101	165	130	101	165
Russia	4,660	2,610	4,240	4,660	2,610	4,240
South Africa	16,500	6,090	6,390	19,300	7,520	7,460
Turkey	18	12	13	13,500	8,470	6,300
United Kingdom	6	4	10	6	4	10
Zimbabwe	7,700	4,940	4,980	17,300	11,100	10,100
Total	29,400	14,000	16,000	70,800	41,800	34,400
Medium-carbon ferrochromium: 4/						
Switzerland	--	--	--	17	11	10
Low-carbon ferrochromium: 5/						
China	60	40	79	810	528	1,030
Germany	983	684	2,500	2,930	2,050	7,300
Japan	--	--	--	84	35	259
Russia	3,270	2,150	4,200	6,840	4,540	9,340
South Africa	3,070	1,750	2,600	4,520	2,600	4,190
Zimbabwe	--	--	--	1,280	847	1,570
Total	7,380	4,620	9,370	16,500	10,600	23,700
Total, all grades:						
Canada	--	--	--	20	9	2
China	60	40	76	810	528	1,030
France	--	--	--	15,000	11,600	5,740
Germany	983	684	2,500	2,930	2,050	7,300
India	385	248	209	770	484	399
Japan	--	--	--	84	35	259
Kazakstan	130	101	165	130	101	165
Russia	7,920	4,760	8,430	11,500	7,150	13,600
South Africa	19,600	7,850	8,980	23,800	10,100	11,700
Switzerland	--	--	--	17	11	16
Turkey	18	12	13	13,500	8,470	6,300
United Kingdom	6	4	10	6	4	10
Zimbabwe	7,700	4,940	4,980	18,600	11,900	11,600
Total	36,800	18,600	25,400	87,200	52,400	58,100

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

3/ Ferrochromium containing more than 4% carbon.

4/ Ferrochromium containing more than 3% but not more than 4% carbon.

5/ Ferrochromium containing not more than 3% carbon.

Source: Bureau of the Census.

TABLE 11  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN  
MARCH 1997, BY GRADE AND BY COUNTRY 1/

Country	March		January-March	
	Gross weight (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Value 2/ (thousands)
Waste and scrap:				
Canada	--	--	2	\$8
Mexico	--	--	(3/)	2
Total	--	--	3	10
Other than waste and scrap:				
China	85	\$494	565	3,270
France	110	906	388	3,190
Germany	3	58	19	226
Hong Kong	34	203	85	505
Italy	--	--	(3/)	7
Japan	79	738	104	1,710
Russia	368	2,430	774	4,960
Spain	3	3	3	3
Switzerland	(3/)	21	(3/)	22
Taiwan	3	11	8	29
United Kingdom	161	1,390	380	3,380
Total	846	6,250	2,320	17,300
Total, all grades:				
Canada	--	--	2	8
China	85	494	565	3,270
France	110	906	388	3,190
Germany	3	58	19	226
Hong Kong	34	203	85	505
Italy	--	--	(3/)	7
Japan	79	738	104	1,710
Mexico	--	--	(3/)	2
Russia	368	2,430	774	4,960
Spain	3	3	3	3
Switzerland	(3/)	21	(3/)	22
Taiwan	3	11	8	29
United Kingdom	161	1,390	380	3,380
Total	846	6,250	2,330	17,300

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise into the United States.

3/ Less than 1/2 unit.

Source: Bureau of the Census.